

REMARKS

Claims 1-20 are currently pending in the application. Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

Allowed Claims

Applicants appreciate the indication that claims 20 and 21 are allowed and that claim 4 contains allowable subject matter. At this time, however, Applicants are not presenting claim 4 in independent form because it is believed that claim 1, from which it depends, is allowable. Furthermore, Applicants submit that all of the claims are in condition for allowance for the following reasons.

35 U.S.C. § 102 Rejection

Claims 1-3, 5-8, 10 and 12-17 were rejected under 35 U.S.C. § 102(e) for being allegedly anticipated by International PCT application WO 2004/093159 to COON et al. Applicants respectfully traverse this rejection.

In order to establish a *prima facie* case of anticipation under 35 U.S.C. § 102, a single prior art reference must disclose each and every element as set forth in the subject claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). Applicants respectfully submit that a *prima facie* case of anticipation has not been established as the applied reference fails to teach each and every element of the claims.

More particularly, independent claim 1 recites, *inter alia*,

a container having a membrane which has optical properties suitable for light transmission during a lithographic process; and fluid substantially devoid of contaminants, the fluid being fully contained within the container such that the container prevents the fluid from contacting a lens and the resist.

Additionally, independent claim 16 recites, *inter alia*,

a container containing a fluid, the container being located between the lens and resist and comprising: a top layer that is substantially transparent to the light; a bottom layer that is substantially transparent to the light; and at least one side attaching the top layer to the bottom layer.

The applied reference does not teach at least these features. Applicants acknowledge that COON discloses the use of a fluid between a lens and the surface of a workpiece in a lithography apparatus (see page 5, lines 1-6). However, it is clear that the device in COON requires various mechanisms for controlling or confining the fluid other than a container. For example, the embodiment shown in Fig. 1 uses supply and recovery nozzles to ensure that the correct amount of fluid fills the gap (see page 5, lines 24-27). Moreover, the embodiment shown in Figs. 4 and 5 utilizes "high-pressure gas for controlling the liquid 7" (see page 5, lines 30-31). Additionally, the embodiment shown in Fig. 7 uses "magnetostatic force to control the liquid 7" (see page 8, lines 9-12). Furthermore, the embodiment shown in Fig. 8 utilizes an ERF 70 and "capacitor electrodes 50" to control the fluid (see page 9, lines 3-6).

While the Examiner has alleged that the ERF 70 defines a container 71 for the fluid, Applicants respectfully submit that the Examiner has failed to fully and fairly consider the claim language. Claim 1, for example, recites a container having a

membrane which has optical properties suitable for light transmission during a lithographic process and fluid substantially devoid of contaminants, the fluid being fully contained within the container such that the container prevents the fluid from contacting a lens and the resist. In contrast, the so-called container 71 in COON does not utilize any membranes. To the contrary, the so-called container 71 is formed by liquefying a central portion of the ERF 70 (see page 9, lines 10-14). Nor has the Examiner identified any structure in COON even remotely resembling a membrane. Furthermore, page 5, lines 1-9 of COON makes clear that the fluid is in contact with both the lens and the workpiece. There is not disclosure whatsoever in COON with regard to using a container to prevent the fluid from contacting a lens and the resist.

Additionally, Claim 16, for example, recites a container containing a fluid, the container being located between the lens and resist and comprising: a top layer that is substantially transparent to the light; a bottom layer that is substantially transparent to the light and at least one side attaching the top layer to the bottom layer. Again, the so-called container 71 of COON is formed by liquefying a central portion of the ERF 70 (see page 9, lines 10-14). Also, the arrangement in Figs. 8 and 9 merely shows a device which defines a side wall sufficient to define the liquified area 70 or 75. COON does not disclose that the area 70 or 75 has a top or bottom layer. Nor has the Examiner identified any structure in COON which even remotely resembles such layers. Furthermore, page 5, lines 1-9 of COON makes clear that the fluid is in contact with both the lens and the workpiece, which precludes the use of any such layers. As there

are no disclosed top and bottom layers, it follows that COON lacks at least one side attaching the top layer to the bottom layer.

Furthermore, dependent claims 2, 3, 5-8, 12-15 and 17 recite additional features which are not disclosed, or even suggested, by COON and the Examiner has not shown otherwise.

For example, COON clearly fails to disclose the top and bottom layers recited in claims 2, 3, 14, 15 and 17, the compliant container of claim 5, and the pillow-shaped container of claim 7.

Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 102(e) should be withdrawn.

35 U.S.C. § 103 Rejections

Claims 9, 18 and 19

Claims 8, 18 and 19 were rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over COON alone. This rejection is respectfully traversed.

The Examiner acknowledges that COON lacks, among other things recited in the above-noted claims, the recited index of refraction. However, the Examiner explains that such features are merely obvious optimum features requiring only routine experimentation. Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the claims.

As explained above, COON is entirely silent with regard to the features recited in at least claims 1 and 16, from which the above-noted claims depend.

For the reasons indicated above, Applicants submit that none of the above-noted claims are disclosed or suggested by any proper interpretation of COON.

Furthermore, Applicants submit that there is no motivation to modify COON in the manner suggested by the Examiner at least because the Examiner has identified no prior art which cures the noted deficiencies of COON.

Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Claim 11

Claim 11 was rejected under 35 U.S.C. § 103(a) for being allegedly unpatentable over COON in view of U.S. Published Patent Application No. 2005/0036183 to YEO et al. This rejection is respectfully traversed.

The Examiner acknowledges that COON lacks, among other things recited in the above-noted claims, top and bottom layers made of one of amorphous fluoropolymer or a fluoroelastic. However, the Examiner explains that such features are taught by YEO and that it would have been obvious to combine the teachings of these documents. Applicants respectfully submit that a *prima facie* case of obviousness has not been established as the applied references fail to teach each and every element of the claims.

As explained above, COON is entirely silent with regard to the features recited in at least claim 1, from which the above-noted claim depends.

Moreover, while Applicants acknowledge that YEO discloses the use of a fluid 60 between a lens 50 and a photoresist 70 (see paragraph [0030]), it is clear that the apparatus in YEO requires a constant flow of fluid to control or confine the fluid and does not utilize a container (see paragraph [0043]).

Claim 1, from which claim 11 depends, recites a container having a membrane which has optical properties suitable for light transmission during a lithographic process and fluid substantially devoid of contaminants, the fluid being fully contained within the container such that the container prevents the fluid from contacting a lens and the resist. YEO, on the other hand, fails to disclose any container that confines the fluid, much less, one which utilizes a membrane. Nor has the Examiner identified any structure in YEO even remotely resembling a membrane or a container. Furthermore, paragraphs [0034], [0035], and [0042] of YEO makes clear that the fluid 60 is in contact with both the lens 50 and the photoresist 70. Thus, YEO, line COON, cannot possibly be read to disclose a container that prevents the fluid from contacting a lens and the resist.

For the reasons indicated above, Applicants submit that the above-noted claim is not disclosed or suggested by any proper combination of COON and YEO.

Furthermore, Applicants submit that there is no motivation to modify COON in the manner suggested by the Examiner at least because the Examiner has identified no

prior art which cures the noted deficiencies of COON and because YEO clearly does not cure the deficiencies of COON.

Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Comments on Reasons for Allowance

In response to the Statement of Reasons for Allowance set forth in the Office Action, Applicants wish to clarify the record with respect to the basis for the patentability of the indicated claims in the present application. In this regard, while Applicants do not disagree with the Examiner's indication that certain identified features are not disclosed by the references, Applicants submit that the claims in the present application recite a combination of features, and that the basis for patentability of these claims is based on the totality of the recited features.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue.

The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Respectfully submitted,
M. HAKEY, *et al.*

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', with a long, sweeping horizontal line extending to the right.

Andrew M. Calderon
Reg. No. 38,093

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
703-716-1191